

4070-317 CIP-RCE-2

Applicants submit herewith a Declaration by Joseph D. Sweeney that provides further evidence that the presently claimed invention shows surprising and unexpected results.

In the enclosed Declaration (Appendix A) Joseph Sweeney describes tests results clearly demonstrating that the smaller size of the second scrubbing unit, due to the smaller volume constraints, provides increase efficiency and allows the system to operate without using chemical injection agents and/or large amounts of fresh water.

Mr. Sweeney further testified that he conducted testing to show the efficiency of the smaller diameter column, relative to multiple larger diameter columns, wherein all the columns were of the same height but had increasing diameters. The results were unexpected and showed that the smaller diameter column provided unexpected abatement efficiency and allowed for the reduction of total water usage while effecting superior contaminant removal efficiency.

These results show that applicants' claimed invention using a smaller diameter secondary scrubbing unit is unexpectedly effective and the level of improvement is unexpected to one skilled in the art showing proof of nonobviousness. While the differences between the diameter size of the secondary column may appear technologically minor, nonetheless it has a substantial and practical impact, and the Office must consider the non obviousness of the present invention in this light. The Office is viewing the present invention after reading applicant's specification and must keep in mind that to date has not shown any prior art that shows or understands the importance of a smaller diameter secondary scrubbing unit. It is somewhat difficult to say just where invention begins, but it frequently happens, as here, that a combination is conceived that produces a great advance in the art and this advance warrants the grant of a patent. Accordingly, applicants respectfully request that all rejections be withdrawn.

Petition for Extension of Time/Fees Payable

The applicants hereby petition for a one (1) month extension of time, extending the deadline for responding to the June 3, 2003 Office Action from September 3, 2003 to October 3, 2003. The entry of this petition results in a petition fee of \$110.00. Please charge deposit account no. 50-

4070-317 CIP-RCE-2

0860 in the amount of \$860.00 which includes the petition fee for a one month extension and the filing fee for a Request for Continued Examination. The U.S. Patent and Trademark Office is hereby authorized to charge any additional amount necessary to the entry of this amendment, and to credit any excess payment, to Deposit Account No. 50-0860 of Advanced Technology Materials, Inc.

CONCLUSION

Pending claims meet all requirements of patentability and are in condition for allowance. If any issues remain outstanding, incident to allowance of the application, the Examiner is requested to contact the undersigned attorney at (919) 419-9350 to discuss their resolution, in order that this application may be passed to issue at an early date.

Respectfully submitted,



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